

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1 1. (currently amended) A method for manufacturing thin film devices
2 comprising:
3 during a polishing process, irradiating white light onto ~~an area of~~ a thin film
4 device having an optically transparent film formed thereon; ~~during polishing~~;
5 detecting reflected light reflected from said ~~area of~~ said thin film device due to the
6 irradiation of said white light when said thin film device is at a predetermined position, a
7 position of said thin film device being determined based on information from a position sensor
8 and a rotation detector;
9 calculating a spectral waveform of said detected light;
10 correcting distortions in the spectral waveform; and ~~of said reflected light which~~
11 ~~is distorted by slurry used during polishing~~; and
12 determining ~~the~~ a thickness of said optically transparent film at said
13 predetermined position ~~on said area by~~ using information from the spectral waveform of the
14 ~~reflected~~ light thus detected.

- 1 2. (currently amended) The method for manufacturing thin film devices
2 according to claim 1, wherein ~~said areas~~ predetermined position is ~~are~~ determined on the basis of
3 previously measured information for the film thickness distribution of thin film devices created
4 by the same process as said thin device.

1 3. (currently amended) A method for manufacturing thin film devices
2 comprising:

3 determining a set of measurement positions on a thin film device on the basis of
4 spectral waveform information;

5 (i) during a polishing process, irradiating white light onto an optically
6 transparent film formed on an area of a said thin film device during a polishing process when
7 said thin film device is at one of said measurement positions, a position of said thin film device
8 being determined based on information from a position sensor and a rotation detector;

9 (ii) detecting reflected light reflected from said area of said thin film device
10 due to the irradiation of said white light;

11 setting regions for measuring the film thickness using information relating to a
12 characteristic quantity of a spectral waveform of said reflected light generated by said thin film
13 device;

14 (iii) calculating a spectral waveform of said detected light;

15 (iv) correcting distortions in the spectral waveform of said reflected light
16 which is distorted by slurry used during the polishing process;

17 (v) determining the a thickness of said optically transparent film at said one of
18 said measurement positions said regions by using information from the corrected spectral
19 waveform of the reflected light in the regions thus set; and

20 monitoring said polishing process by performing steps (i) through (v) for one or
21 more of said measurement positions. using the information for the thickness of the optically
22 transparent film thus determined.

1 4. (currently amended) The method for manufacturing thin film devices
2 according to claim 3, wherein the measurement positions are determined based on a
3 predetermined characteristic quantity of said spectral waveform information. said regions for
4 measuring film thickness are determined using said spectral waveform of said reflected light.

1 5. (currently amended) A method for manufacturing thin film devices
2 comprising:

3 setting measurement positions for determining a thickness of an optically
4 transparent film formed on the surface of a thin film device;

5 (i) during a polishing process, irradiating white light onto said an optically
6 transparent film when said thin film device is at one of said measurement positions, a position of
7 said thin film device being determined based on information from a position sensor and a
8 rotation detector; formed on the surface of a thin film device, during a polishing process;

9 (ii) detecting light reflected light from said thin film device due to the
10 irradiation of said white light;

11 setting prescribed regions for determining the film thickness;

12 (iii) calculating a spectral waveform of said detected light;

13 (iv) correcting distortions in the spectral waveform of said reflected light
14 which is distorted by slurry used during the polishing process;

15 (v) determining the a thickness of said optically transparent film at said one of
16 said measurement positions on the basis of the corrected spectral waveform of said reflected light
17 from the prescribed regions thus set; and

18 monitoring said polishing process by performing steps (i) through (v) for one or
19 more of said measurement positions. using the information for the thickness of the optically
20 transparent film thus determined.

1 6. (currently amended) The method for manufacturing thin film devices
2 according to claim 5, wherein a plurality of prescribed regions measurement positions for
3 determining said film thickness are set, the film thickness at each of the plurality of regions
4 measurement positions thus set is determined, information relating to the film thickness
5 distribution on said thin film device is obtained, and said polishing process is monitored using
6 the information relating to the film thickness distribution thus obtained.

1 7. (currently amended) A method for manufacturing thin film devices
2 comprising:

3 (i) during a polishing process, irradiating white light onto an optically
4 transparent film formed on prescribed regions of a thin film device when said thin film device is
5 at a predetermined position, a position of said thin film device being determined based on
6 information from a position sensor and a rotation detector; during polishing;

7 (ii) detecting light reflected light from said thin film device due to the
8 irradiation of said white light;

9 (iii) calculating a spectral waveform of said detected light;

10 (iv) correcting distortions in the spectral waveform; of said reflected light
11 which is distorted by slurry used during the polishing process;

12 (v) determining the a thickness of said optically transparent film at said
13 predetermined position by using information relating to said corrected spectral waveform of the
14 reflected light from said prescribed positions; and

15 monitoring said polishing process by performing steps (i) through (v) for said
16 predetermined measurement position, using the information for the thickness of the optically
17 transparent film thus determined.

1 8. (currently amended) The method for manufacturing thin film devices
2 according to claim 7, wherein the information relating to said corrected spectral waveform is the
3 reflection intensity of said corrected spectral waveform.

1 9. (currently amended) The method for manufacturing thin film devices
2 according to claim 7, wherein the information relating to said corrected spectral waveform is the
3 frequency spectrum intensity of said corrected spectral waveform.

1 10. (currently amended) The method for manufacturing thin film devices
2 according to claim 3, wherein said ~~regions~~ predetermined position for measuring film thickness
3 ~~are~~ is determined using the reflectivity of ~~said area of~~ said thin film device with respect to said
4 white light.

1 11. (currently amended) The method for manufacturing thin film devices
2 according to claim 3, wherein said ~~regions~~ measurement positions for measuring film thickness
3 are determined using ~~the a~~ frequency spectrum of said spectral waveform of said reflected light.